

Integration of Deepfake Technology in Promotional Videos to Enhance MSME Economic Utility in Bireuen Regency

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Abstract— This study examines the integration of deepfake technology in UMKM promotional practices by focusing on its strategic value, ethical dimensions, implementation risks, and economic utility. A qualitative approach with a naturalistic phenomenological design was employed to explore the experiences, perceptions, and readiness of UMKM actors, promotion teams, and consumers in using deepfake-based promotional content. Data were collected through participatory observation, in-depth interviews, and documentation, and analyzed using the interactive model of Miles, Huberman, and Saldaña with NVivo support. The findings indicate that deepfake is perceived as a promising promotional innovation because it can enhance visual appeal, extend promotional reach, and improve cost and time efficiency in content production. However, its adoption is shaped by important constraints, particularly content authenticity, ethical considerations, audience response, human resource capacity, and the risk of misleading consumers. The study also shows that the economic utility of deepfake in UMKM promotion is meaningful only when promotional efficiency is balanced with ethical control, digital literacy, and consumer trust. These findings suggest that deepfake adoption in UMKM should not be understood merely as a technological issue, but as a negotiation between economic value, digital capability, reputational risk, and moral legitimacy. Abstract is a brief summary of the paper to help readers quickly determine the main research problem, solutions to solving problems encountered, research objectives and temporary research results which can be in the form of numbers/percentages according to research needs. Abstract should be clear and informative, providing a statement for the problem under study and its solution. Abstract length between 90 to 230 words. Avoid unusual abbreviations and define all symbols used in the abstract. Using keywords related to the research topic is recommended.

Keywords: Deepfake; UMKM; Digital promotion; Ethics; Reputational risk; Economic utility

1. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play a very vital role in the economy of Indonesia and the global economy [1]. In this sector, in 2022 MSMEs contributed approximately 61% of GDP and absorbed 97% of the workforce [2]. However, in reality, MSMEs often face challenges in competing in the digital market, especially related to the high cost of producing promotional content and limited creative resources, making it difficult to reach global markets [3]. These problems should not become obstacles for MSMEs to penetrate global markets, especially in the current digital era [3]. In the digital era, video has become a primary promotional tool and a crucial marketing medium, but its production requires significant time, effort, and cost. Digital transformation strengthens MSME capacity in improving human resources, access to financing, and promotional activities, ultimately leading to increased income [4].

The development of information technology offers innovative solutions to MSME promotional video challenges [5], such as the use of AI, which enables the creation of realistic promotional content by enhancing backgrounds, facial expressions, and clearer, more engaging audio [6]. One of the continuously evolving technologies is deepfake, which utilizes deep learning algorithms [7]. This technology has been widely used in the global entertainment and marketing industries, and the marketing sector is projected to grow by 27% annually until 2030 [8][7], with personalized promotional content as a major trend [9][10]. However, the potential of MSMEs in Bireuen Regency to fully utilize this technology is still constrained by limited human resource expertise.

Nevertheless, the use of deepfake in MSMEs presents a dilemma. On one hand, this AI technology can reduce production costs, enhance creativity, and expand market reach [11]. On the other hand, the use of deepfake technology is highly vulnerable to ethical issues [12], including violations of privacy and intellectual property rights, as well as misleading representations of product quality that may not match reality, posing risks to consumer trust [5][13]. Globally, 68% of consumers feel uncomfortable with deepfake content as it is perceived as overly manipulative. Deepfakes can also spread misinformation or misleading product advertisements [14]. Other issues include the readiness of digital infrastructure and MSME capabilities, as well as the lack of human resources to access AI platforms or technical video production skills [15][4], resulting in content that is often unprofessional [16] and potentially damaging to product and brand image.

The use of deepfake is inseparable from complex ethical dilemmas. While it has the potential to reduce production costs and enhance content creativity [10], it is also highly prone to misuse. Studies highlight that deepfake technology can threaten privacy, spread misinformation, and undermine public trust [13]. In the marketing context, non-transparent visual or audio manipulation can create misleading perceptions of product quality. As many as 68% of global consumers express discomfort with deepfake content due to its manipulative

nature [14]. This risk is particularly relevant for MSMEs that heavily rely on consumer trust as their primary social capital.

Technical studies indicate that deepfake technology is becoming increasingly difficult to detect using conventional tools, thereby increasing the urgency for developing verification and transparency mechanisms [7]. From a regulatory perspective, there is a need for legal frameworks to address the misuse of image manipulation technologies in Indonesia [11]. Meanwhile, principles of transparency, accountability, and consent must serve as the ethical foundation for AI usage [12]. In the context of Indonesian MSMEs, Andriana also found that the use of AI in marketing communication can enhance personalization and engagement but requires improvements in human resource capacity [17]. Additionally, training in digital content production has been shown to significantly improve MSME promotional capabilities [4]. However, these studies have not specifically integrated deepfake technology with an economic utility perspective and an operational ethical framework in the context of local MSMEs.

Based on the literature review, most previous studies only discuss the effectiveness of AI in marketing in general or highlight ethical issues of deepfake on a global scale. However, studies that specifically examine the integration of deepfake within regional MSME contexts using an operational ethical protocol approach are still limited. Therefore, there is a research gap in developing contextual, ethical, and adaptive implementation models aligned with local capacities. This study aims to analyze the readiness of MSMEs in Bireuen Regency to adopt deepfake technology, identify factors influencing consumer acceptance, and formulate a deepfake integration model based on ethical protocols that can maintain market trust. Thus, the research gap lies in integrating deepfake technology into MSME promotion by considering not only technological efficiency but also its impact on economic utility and consumer trust. Previous studies tend to focus on technical detection aspects, global ethical issues, or general digital marketing strategies. There is still limited research combining technological, economic, and ethical dimensions within the context of regional MSMEs.

2. RESEARCH METHODOLOGY

2.1 Research Design

This study employs a qualitative approach with a naturalistic phenomenological design to explore the experiences, perceptions, and readiness of MSME actors in utilizing deepfake technology for digital promotional content production. The phenomenological approach is chosen because the study focuses on understanding the subjective meaning and lived experiences of MSME actors and consumers within the context of digital transformation, particularly in the use of deepfake as an information technology-based promotional media innovation [18]. The naturalistic design is applied to ensure that the phenomenon is examined in real settings without manipulation of variables, allowing social reality to be understood as directly experienced by participants [19].

2.2 Research Location and Subjects

The research was conducted in Bireuen Regency, Aceh, which shows significant MSME growth but still faces challenges in adopting digital marketing technologies. The research subjects consisted of 30 participants, including 10 MSME leaders, 10 promotion team members, and 10 MSME consumers. Participants were selected using purposive sampling techniques based on their relevance to the research objectives [18].

The criteria for participants include:

- a. Having experience using digital media for promotion (such as social media, marketplaces, or websites)
- b. Actively operating a business for at least two years
- c. Willingness to participate in interviews and observations
- d. Representing various business sectors, such as culinary, fashion, handicrafts, and services

The number of participants was determined based on the principle of data saturation, which refers to the condition when data collection no longer produces new substantive information [21]. In qualitative research, saturation is determined not only by the number of participants but also by the depth of data and the consistency of emerging meaning patterns [22].

2.3 Data Collection Techniques

Data collection was conducted using three main methods:

a. Participatory Observation

Observation was conducted to identify:

1. Patterns of digital promotional content production
2. Platforms used
3. Technical constraints in creating promotional videos
4. The level of technological literacy among MSME actors

Observations were carried out directly and documented in structured field notes.

b. In-depth Interviews

Interviews were conducted using semi-structured guidelines covering:

1. Perceptions of information technology and deepfake
2. Readiness for technology adoption
3. Analysis of benefits and risks
4. Technical and ethical challenges
5. Potential impact on the economic utility of the business

Each interview lasted 45–60 minutes and was recorded with the participant’s consent.

c. Documentation Study

The documentation study includes:

1. Existing digital promotional content
2. Engagement statistics (if available)
3. Regional policies related to MSME digitalization
4. Digital training materials previously attended

These documents were analyzed to identify gaps between conventional practices and the potential integration of deepfake technology.

2.4 Data Analysis Techniques

Data analysis follows the interactive model of Miles, Huberman, and Saldaña, which consists of data reduction, data display, and conclusion drawing and verification [20].

Data reduction was conducted by selecting and grouping relevant parts of interview data related to deepfake, promotion, ethics, risks, and economic utility. The next step involved initial coding, where labels were assigned to recurring meaning units in the transcripts. These codes were then grouped into categories with similar meanings to form broader subthemes. From this process, key themes were identified, including deepfake integration in MSME promotion, ethical aspects, deepfake potential, challenges and risks, and economic utility value [20], [25].

Data display was presented in the form of matrices, thematic summary tables, and concept maps to facilitate understanding of relationships between categories. Conclusion drawing was conducted iteratively and continuously verified through repeated data review to ensure consistency with participant statements [25].

To enhance analytical transparency, this study utilized NVivo software. The use of NVivo enables systematic coding, theme grouping, and visualization of relationships between categories [23]. It also supports audit trail processes, allowing clearer tracking of analysis and explicit visualization of inter-theme relationships through treemaps, project maps, and matrix coding queries [24].

The validity of findings was ensured through repeated transcript review, cross-group comparisons among participants, and contextual interpretation aligned with the use of deepfake in MSME promotion [25]. Thus, the methodological approach emphasizes not only interpretative depth but also analytical transparency and reliability of findings.

To clarify the analysis results, this study also presents a summary table of themes and subthemes. This table serves as a bridge between the qualitative coding process and the conceptual discussion in the results section. It demonstrates that theme development is based on systematic grouping of field data rather than researcher speculation.

Table 1. Summary of Research Themes and Subthemes

Main Theme	Dominant Subthemes	Analytical Meaning
Deepfake integration in MSME promotion	Promotional opportunities; platforms; adoption strategies	Deepfake is understood as a valuable promotional tool if aligned with business needs and resources
Ethical aspects	Content authenticity; audience response; ethical principles	Technology acceptance is strongly influenced by honesty in product representation and audience reactions
Main potential of deepfake	Technology understanding; promotional relevance; AI-based technology	Deepfake is considered promising, but its actual potential depends on digital literacy and readiness
Challenges and risks	Misuse; constraints; human resource capability; consumer deception	Promotional innovation brings reputational and technical risks that must be anticipated
Economic utility value	Cost efficiency; time efficiency; visual attractiveness; purchase decisions	The value of deepfake for MSMEs is shaped by operational benefits and its influence on the market

2.5 Validity and Trustworthiness

Data validity was ensured through:

- a. Method triangulation (observation, interviews, documentation)
- b. Source triangulation (across MSME sectors)

- c. Member checking
- d. Peer debriefing
- e. NVivo-based audit trail

This approach ensures:

- a. Credibility
- b. Transferability
- c. Dependability
- d. Confirmability

3. RESULT AND DISCUSSION

3.1 Research Findings

Based on the results of qualitative data analysis using NVivo, the findings are visualized through the following coding treemap:

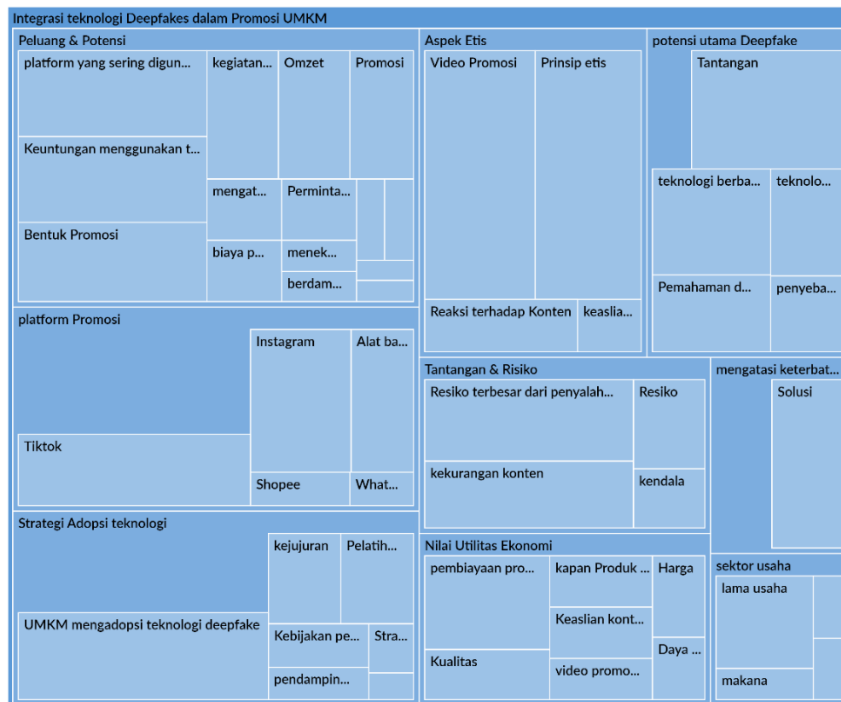


Figure 1. Comparison Based on the Number of Coding References

The visualization above shows that the integration of deepfake technology in MSME promotion forms several interrelated main themes, namely: (1) the integration of deepfake technology in MSME promotion, (2) ethical aspects, (3) the main potential of deepfake in promotion, (4) technology adoption strategies, (5) challenges and risks of integration, and (6) economic utility value. Overall, these themes indicate that the use of deepfake technology in MSME promotion is not only related to the technical aspects of content production, but also involves issues of adoption strategies, consumer trust, communication ethics, and economic value. Use numbering.

3.1.1 Integration of Deepfake Technology in MSME Promotion

The most dominant theme in this study is the integration of deepfake technology in MSME promotion. The prominence of this theme indicates that most informants’ narratives focus on how the technology is understood, utilized, and responded to within the context of business promotional activities, as illustrated in the following figure:

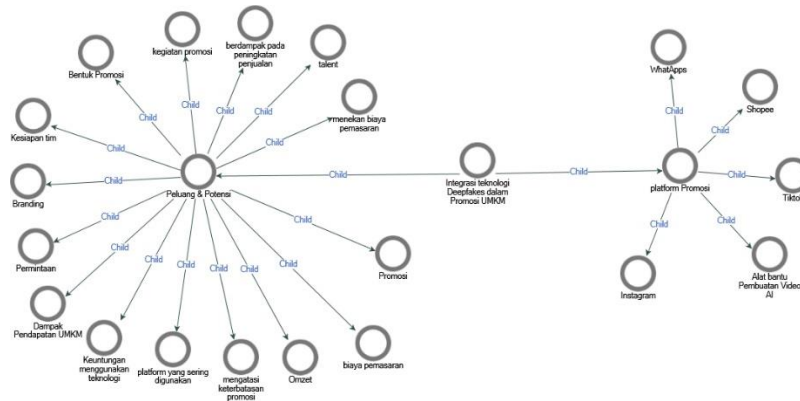


Figure 2. Project Map of Deepfake Integration in MSME Promotion

Within this theme, the subtheme of opportunities and potential emerges as the most prominent. Several coding elements identified—such as frequently used platforms, activities, revenue, promotion, benefits of technology usage, demand, forms of promotion, promotional costs, and impacts—indicate that informants perceive deepfake as a technology with strong potential to enhance business promotion systems. This technology is viewed as capable of supporting diverse promotional formats, increasing content attractiveness, and helping business actors reach consumers more effectively. In the context of MSMEs, visually appealing promotion is understood as a crucial factor in capturing consumer attention amid increasingly intense digital competition.

The next finding relates to promotional platforms as the primary media for content distribution. Coding elements such as TikTok, Instagram, Shopee, and WhatsApp indicate that the utilization of deepfake is closely connected to the digital media ecosystem already used daily by MSME actors. TikTok and Instagram stand out as highly potential visual-based platforms for distributing promotional videos. Shopee reflects the linkage between visual promotion and online sales activities, while WhatsApp highlights the importance of direct communication and promotion distribution through personal networks.

In addition, the subtheme of technology adoption strategies also appears significantly. Coding elements such as MSMEs adopting deepfake technology, honesty, training, supporting policies, strategies, and mentoring indicate that deepfake integration is not merely about technological availability, but also involves human resource readiness, the development of ethical values, and policy support. Therefore, technology adoption requires a learning process, implementation assistance, and a normative framework that guides the responsible use of technology.

3.1.2 Ethical Aspects of Technology Use

Ethical aspects constitute a highly critical component in adopting technology for promotional activities. The findings of this study can be seen in the following figure:

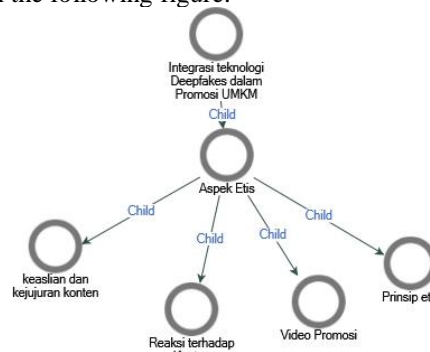


Figure 3. Project Map Visualization

Based on the project map visualization, the central theme identified is Ethical Aspects. The position of Ethical Aspects as the central node indicates that, in the integration of deepfake technology in MSME promotion, ethical considerations occupy a highly important role and serve as the main connector for several derived codes. From this central node, direct relationships can be observed with four key elements, namely content authenticity and honesty, audience reactions to content, promotional videos, and ethical principles.

At the top level, the major theme of Integration of Deepfake Technology in MSME Promotion is directly connected to Ethical Aspects, emphasizing that the use of deepfake technology in marketing cannot be separated from moral considerations and social responsibility.

Furthermore, the findings related to ethical aspects are illustrated in the following figure:

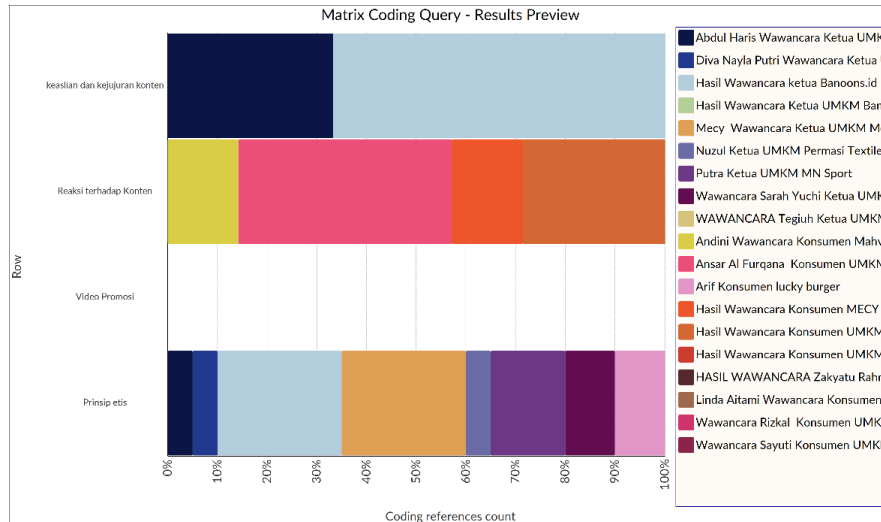


Figure 4. Matrix Coding Query of Ethical Principles

Based on the results of the Matrix Coding Query, the theme of Ethical Aspects shows varying distributions of references across each subcoding. In the coding of content authenticity and honesty, references are concentrated among two main informants with proportions of approximately 33% and 67%. This indicates that issues of authenticity and honesty are of significant concern, although the emphasis is dominated by specific informants. These findings suggest that the use of deepfake in MSME promotion is only acceptable when it does not mislead consumers and continues to represent products in a fair and accurate manner.

In the coding of reactions to content, the distribution of references is spread across four informants with proportions of approximately 14%, 43%, 14%, and 29%. This pattern indicates that the ethical dimension of deepfake usage is also assessed based on audience responses to the promotional content presented. Audience reactions serve as an important indicator in determining whether AI-based promotional content is perceived as convincing, exaggerated, or manipulative.

Meanwhile, the coding of promotional videos does not show dominant references in the matrix, suggesting that the video medium itself is not the primary ethical concern independently. Instead, greater emphasis is placed on the content, its impact, and the norms governing its use.

Furthermore, the coding of ethical principles demonstrates the widest distribution of references, with proportions of approximately 5%, 5%, 25%, 25%, 20%, 10%, and 10%. This finding indicates that ethical principles are a shared concern across informants and serve as a normative foundation in the use of deepfake technology for MSME promotion.

Thus, the matrix results reinforce that ethical aspects in the integration of deepfake technology in MSME promotion are grounded in content authenticity and honesty, audience reactions, and awareness of ethical principles. The success of this technology is not solely determined by promotional attractiveness, but also by its ability to maintain consumer trust through authentic, transparent, and responsible content.

3.1.3 Main Potential of Deepfake in Promotion

The analysis of the main potential of deepfake usage in promotional activities can be seen in the following figure:

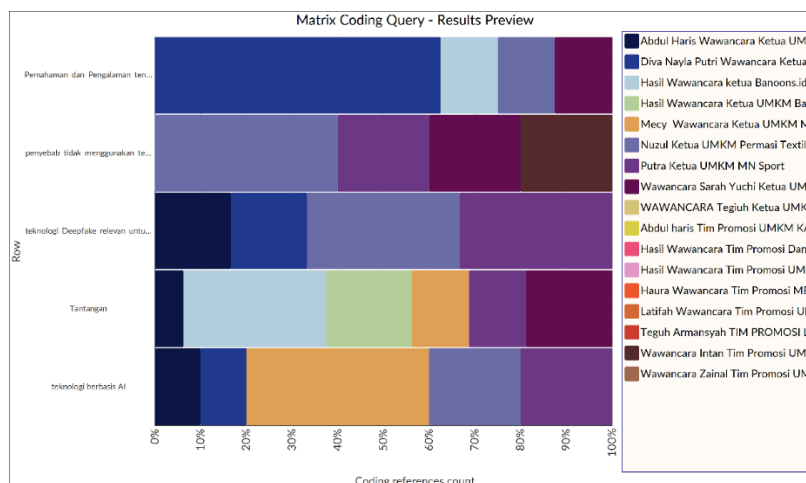


Figure 5. Matrix Coding Query of Potential

Overall, the figure reinforces the fundamental finding that deepfake is perceived as a technology with strategic potential to support MSME promotion. However, this potential is still accompanied by limitations in understanding, adoption constraints, and implementation challenges. In other words, the potential of deepfake in promotion has not yet fully matured, but rather remains in a transitional phase between possible benefits and practical limitations.

Based on the results of the Matrix Coding Query, the theme of the main potential of deepfake shows a varied distribution of references across each subcoding. In the coding of understanding and experience with the technology, references are concentrated among four informants with proportions of approximately 62%, 13%, 13%, and 12%. This finding indicates that knowledge of deepfake tends to be dominant among certain informants, while others demonstrate more limited experience. This condition suggests that technological literacy is a crucial initial factor in recognizing the potential use of deepfake for MSME promotion.

In the coding of reasons for not using the technology, the distribution of references is approximately 40%, 20%, 20%, and 20%. This pattern indicates that barriers to technology adoption are still quite evident and acknowledged by several informants. Thus, the potential of deepfake has not yet been fully realized due to various factors that hinder its utilization.

Meanwhile, the coding of deepfake technology relevance for promotion shows proportions of approximately 17%, 17%, 34%, and 32%, indicating that most informants consider deepfake to be relevant for supporting business promotional needs. The coding of challenges shows the widest distribution, with proportions of approximately 6%, 31%, 19%, 13%, 12%, and 19%, suggesting that deepfake implementation is still overshadowed by various technical and practical obstacles.

Furthermore, the coding of AI-based technology shows proportions of approximately 10%, 10%, 40%, 20%, and 20%, indicating that understanding of deepfake as part of artificial intelligence has begun to develop, although it is not yet evenly distributed among all informants.

Thus, the results of this matrix demonstrate that the main potential of deepfake in MSME promotion lies at the intersection of digital innovation opportunities and implementation limitations. The technology is perceived as relevant and promising for supporting business promotion; however, its optimization still requires improved understanding, technical readiness, and strengthened digital literacy among MSME actors.

3.1.4 Challenges and Risks of Technology Use in Promotion

The findings regarding the challenges and risks of using deepfake technology in MSME promotional activities can be visualized as shown in the following figure:

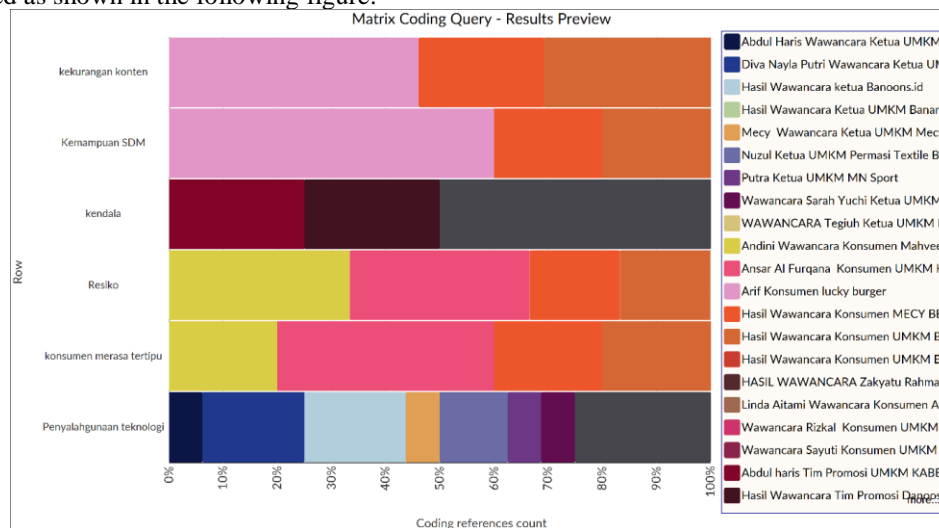


Figure 6. Matrix Coding Query of Challenges and Risks in Using Deepfake

Based on the results of the Matrix Coding Query shown in the figure, the theme of challenges and risks demonstrates varied distributions of references across each subcoding. The coding of content limitations shows proportions of approximately 46%, 23%, and 31%, indicating that one of the key challenges in using deepfake lies in the quality and adequacy of promotional content. The coding of human resource capability shows proportions of approximately 60%, 20%, and 20%, suggesting that limitations in human resources are a major barrier to the implementation of this technology. Meanwhile, the coding of constraints shows proportions of approximately 25%, 25%, and 50%, confirming the presence of practical obstacles in applying deepfake for MSME promotion.

In the coding of risks, the distribution of references is approximately 33%, 34%, 17%, and 16%, indicating that perceptions of risk are relatively concentrated among two main informants. The coding of consumers feeling deceived shows proportions of approximately 20%, 40%, 20%, and 20%, highlighting that one of the most serious impacts of deepfake usage is the emergence of consumer perceptions of being misled. Furthermore, the coding of

technology misuse shows a broader distribution, approximately 6%, 19%, 19%, 6%, 13%, 6%, 6%, and 25%, indicating that concerns about misuse are shared across informants.

Thus, the results of this matrix reinforce that the use of deepfake in MSME promotion is inherently ambivalent. On one hand, this technology opens opportunities for more modern and efficient promotional innovation. On the other hand, it introduces risks related to information integrity, content quality, human resource readiness, and consumer trust. Therefore, the utilization of deepfake requires caution, strengthened digital literacy, and a strong ethical commitment to prevent it from becoming a source of problems for both business actors and audiences.

3.1.5 Economic Utility Value

The economic utility value of using technology in promotional activities can be observed in the following figure:

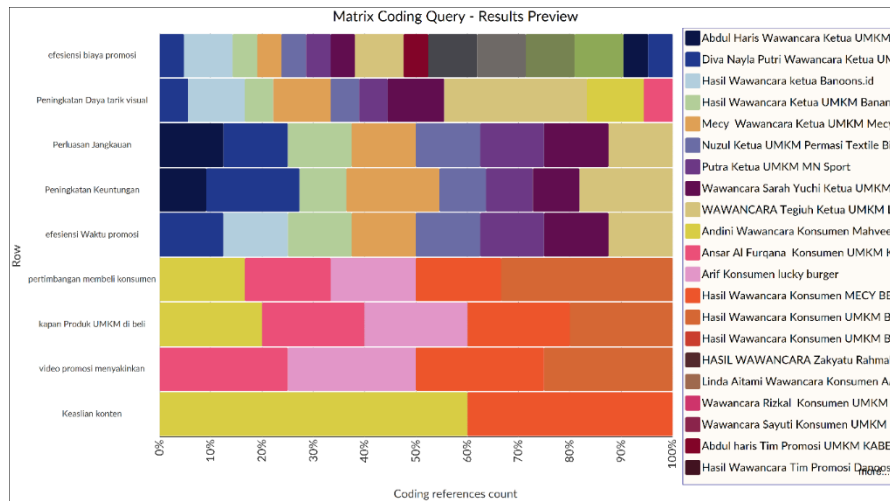


Figure 7. Economic Utility

Based on the results of the Matrix Coding Query, the theme of economic utility value shows varied distributions of references across each subcoding. In the coding of promotional cost efficiency, references are widely distributed among many informants with relatively small and even proportions, indicating that cost-saving benefits are broadly perceived. In the coding of increased visual attractiveness, the distribution shows one dominant segment at approximately 28%, while the rest are spread among several informants with proportions of around 5–11%, suggesting that visual appeal is a key consideration in utilizing deepfake for promotion.

The coding of expanded reach and time efficiency in promotion shows relatively even distributions, each with proportions of approximately 10–13% across several informants. This indicates that deepfake is perceived as capable of expanding the distribution of promotional messages while also accelerating the content production process. Meanwhile, the coding of profit increase shows proportions of approximately 9% and 18%, reflecting expectations that the use of deepfake can positively impact business outcomes.

From the consumer perspective, the coding of consumer purchase consideration shows proportions of approximately 17% with one dominant segment at 32%, while the coding of when MSME products are purchased shows a very even distribution of around 20% each. The coding of convincing promotional videos shows equal proportions of approximately 25% across four informants, whereas the coding of content authenticity shows proportions of approximately 60% and 40%. These findings indicate that the economic utility value of deepfake is not only related to internal business efficiency, but also to its ability to create attractive and convincing promotional content, influence purchasing decisions, and remain perceived as authentic by consumers.

Thus, the matrix results reinforce that the acceptance of deepfake among MSMEs is strongly influenced by perceived practical benefits. This technology is considered valuable when it can reduce promotional costs and time, expand market reach, enhance visual appeal, and support consumer purchasing decisions. However, this economic utility will only be sustainable if it is balanced with content authenticity and the maintenance of consumer trust.

3.2 Discussion

3.2.1 Deepfake as a Promotional Innovation Oriented Toward Economic Utility

The research findings indicate that the integration of deepfake technology in MSME promotion is primarily understood through a practical utility logic. Informants tend to perceive deepfake as a valuable technology when it is able to produce more engaging promotional content, faster production processes, and lower costs compared to conventional visual promotion methods. This pattern confirms that technology acceptance at the MSME level is highly utilitarian in nature. These findings are consistent with studies showing that perceived

usefulness is the strongest driver in AI adoption among MSMEs [17]. They also align with research emphasizing that digital capability and organizational innovation capability are key drivers of AI implementation in small and medium enterprises [26].

In the subtheme of promotional platforms, the emergence of media such as TikTok, Instagram, Shopee, and WhatsApp indicates that deepfake is understood as part of a digital promotion ecosystem already familiar to business actors. This suggests that the appeal of deepfake lies not merely in its novelty, but in its compatibility with established message distribution channels in MSME marketing practices. These findings are consistent with the TOE–DOI framework, which positions technological compatibility with organizational and environmental contexts as a critical factor for successful adoption [27]. Therefore, discussions on deepfake in MSMEs should not be limited to technical content production aspects, but should also include how the technology is positioned within broader promotional strategies.

Matrix coding on the theme of economic utility value shows that the benefits of deepfake are distributed across two main pathways: internal business benefits and market response benefits. The first pathway includes promotional cost efficiency, time efficiency, expanded reach, and potential profit increases. The second pathway includes enhanced visual appeal, more convincing promotional videos, influence on purchase consideration, and impact on the timing of purchase decisions. These findings are in line with studies on AI in MSMEs, which emphasize that new technologies are adopted when they are perceived to contribute to business performance and competitiveness [28][29].

From a market perspective, the findings indicate that more convincing and attractive visuals are perceived to help shape consumer purchase decisions. This is consistent with research on short video marketing, which shows that content characteristics such as usefulness, ease of understanding, and entertainment value can increase trust [30] and purchase intention [31]. These results also align with studies showing that purchase intention in social commerce is formed through mechanisms such as perceived persona, shared values, and social experiences created by video content [32][33]. Therefore, the economic utility of deepfake in MSME promotion lies not only in cost efficiency but also in its ability to build persuasive market power.

The findings also reveal that the economic utility value is conditional. The coding of content authenticity emerges as part of the economic utility theme, indicating that the economic benefits of technology cannot be separated from perceptions of authenticity. Strong visuals may increase market attention, but if they are perceived as exaggerated or not truthfully representing the product, short-term gains may be offset by a decline in consumer trust. This is consistent with research showing that consumer responses to AI-generated advertisements are highly sensitive to perceptions of authenticity and disclosure [34]. Thus, this study demonstrates that the economic utility of deepfake will only be sustainable if promotional efficiency does not undermine content credibility...

3.2.2 Ethical Boundaries and Reputational Risks in the Use of Deepfake

The research findings position ethical aspects as a central theme connected to content authenticity and honesty, audience reactions, promotional videos, and ethical principles. This thematic positioning indicates that informants do not perceive deepfake merely as a visual technology, but as a communication practice that must be evaluated morally. The dominance of coding related to content authenticity and honesty suggests that acceptance of deepfake-based promotion heavily depends on the ability of the content to represent products fairly and accurately. These findings are consistent with systematic reviews that identify authenticity, ethics, and transparency as foundational elements of trust in AI-based marketing [30].

Audience reaction emerges as another important element within the ethical theme. The findings indicate that ethical evaluation does not end with the intent of content creators, but also involves how audiences receive, interpret, and trust the promotional content. In this study, audience reactions are positioned as a reflection of the social acceptability of deepfake. This is in line with research showing that disclosure of AI-generated content can reduce perceived advertising credibility and lead to less favorable attitudes toward advertisements [31]. Other studies also indicate that trust in service advertisements declines when consumers become aware of the involvement of generative AI in message creation [32]. Therefore, honesty and transparency in content become crucial determinants in maintaining audience acceptance.

The findings are further reinforced when examined alongside the theme of challenges and risks. Coding such as misuse of technology, risk, and consumers feeling deceived indicates that ethical issues have a direct impact on business reputation. The greatest risk arises when deepfake is used to construct product representations that significantly deviate from reality. Such conditions can trigger feelings of deception among consumers, which may evolve into distrust and negative evaluations of the business. These findings are consistent with cross-country studies showing that deepfakes pose threats to social trust and information integrity [33]. They also align with research indicating that misleading information can increase consumer cynicism and negative word-of-mouth [34].

In the MSME context, this reputational risk carries greater weight compared to larger organizations, as many small businesses rely on personal relationships, customer trust, and word-of-mouth communication. Therefore, for MSMEs, the use of deepfake without ethical control can become counterproductive [35]. A technology intended to strengthen promotion may instead reduce business credibility if the content is perceived as manipulative. This perspective is consistent with the concept of the business privacy calculus, which explains that

the business benefits of deepfake must always be weighed against potential trust damage and governance risks [36].

Thus, this study demonstrates that ethics and risk are not separate issues. Rather, the deepest risks of deepfake emerge when technological efficiency is not accompanied by ethical control. If visuals become increasingly realistic without maintaining honesty in representation, promotional benefits may turn into sources of reputational damage. These findings emphasize that ethics in deepfake-based promotion is not merely an abstract moral value, but a prerequisite for sustaining market effectiveness and business legitimacy..

3.2.3 MSME Readiness for Technology Adoption: Between Opportunities and Limitations

In addition to highlighting its potential, the research findings also indicate that the use of deepfake in MSMEs has not yet been fully optimized, as it is still constrained by levels of technological understanding, user experience, human resource capability, operational challenges, and content quality. Matrix coding on the theme of potential shows that knowledge and experience with the technology are concentrated among only a portion of informants, indicating that technological literacy is not yet evenly distributed. These findings suggest that the opportunities offered by deepfake do not automatically translate into effective promotional practices. This result is consistent with studies indicating that limitations in digital competence and internal resources are major barriers to AI adoption in MSMEs [37].

The subtheme of reasons for not using the technology and related challenges shows that resistance to deepfake is not always driven by ideological rejection, but more often by practical concerns. Business actors may perceive the technology as attractive, yet still feel unprepared to use it due to lack of skills, limited access, or the absence of an urgent need. These findings are consistent with studies on AI adoption in MSMEs, which emphasize that technological readiness, leadership vision, and organizational support influence decisions to adopt AI [38]. The TOE–DOI framework also emphasizes that successful adoption requires alignment between technical readiness, organizational structure, and environmental pressures [39].

Within the theme of challenges and risks, coding related to human resource capability, constraints, and content limitations indicates that the main issue lies not only in the availability of technology, but in the capacity of individuals who operate it. Deepfake as a promotional tool will generate different outcomes depending on whether it is used by individuals who understand visual logic, ethical representation, and platform characteristics. If these capabilities are lacking, promotional outcomes may become ineffective or even detrimental. These findings are consistent with studies that position digital capability as a key prerequisite for productive AI adoption [39].

This study extends the discussion on AI adoption in MSMEs. While many studies emphasize readiness to use, referring to the preparedness of business actors to utilize digital tools, this research shows that deepfake also requires readiness to govern, namely the ability to manage risks, maintain content quality, and ensure honesty in promotion. Therefore, the success of deepfake implementation should not only be measured by the ability to produce content, but also by the ability to manage the social and reputational consequences that may arise.

Overall, the findings indicate that deepfake places MSMEs at the intersection of innovation opportunities and implementation limitations. This technology offers the potential to enhance promotional efficiency and market persuasion, but these benefits are highly dependent on improving digital literacy, providing user support, and establishing clear ethical governance. The main contribution of this study lies in emphasizing that deepfake adoption cannot be understood solely from a technocentric perspective. Instead, it should be viewed as a negotiation space between economic utility, digital capability, reputational risk, and moral legitimacy.

4. CONCLUSION

This study concludes that deepfake technology is perceived as a promotional innovation with strategic value for MSMEs, as it can reduce the cost and time required for content production, expand promotional reach, and enhance the visual attractiveness of marketing messages. However, the acceptance of this technology is not absolute. Factors such as content authenticity and honesty, audience responses, risks of misuse, human resource capability, and the potential for consumers to feel deceived emerge as key determinants of the acceptability of deepfake in promotional activities. These findings indicate that the economic utility of deepfake for MSMEs is conditional. The technology will only provide sustainable long-term benefits if operational efficiency and promotional effectiveness do not compromise credibility and consumer trust. From a theoretical perspective, this study emphasizes that the adoption of deepfake in MSMEs cannot be understood solely through the lens of technological usefulness, but must be viewed as a negotiation between economic value, digital capability, reputational risk, and moral legitimacy. Practically, this study recommends that MSME actors, business facilitators, and policymakers should not only encourage the use of AI for promotion but also strengthen digital literacy, establish ethical guidelines, and develop adequate content verification mechanisms. The limitation of this study lies in its qualitative and contextual nature, meaning that the findings are not intended for statistical generalization. Future research is suggested to examine the relationship between deepfake usage, consumer trust, and sales performance using quantitative or comparative approaches across different business sectors.

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